

Serial No. 10/777,394, filed 2/12/04

Amendments to Claims:

This listing of claims will replace all prior revisions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) ~~An exhaust muffler~~ A powertrain control system comprising:

an exhaust muffler including a housing having an exhaust passage; and
a valve supported by said housing and arranged in said exhaust passage movable between multiple positions for tuning said exhaust muffler; wherein an exhaust gas flows through said exhaust passage, with substantially all of said exhaust gas flowing through said valve in each of said multiple positions, said valve increasing a backpressure within said exhaust passage by increasingly blocking said exhaust passage with said valve.

2. (Currently Amended) The powertrain control system ~~exhaust muffler~~ according to claim 1, comprising an electrical actuator supported by said housing, said electrical actuator actuating said valve between said multiple positions.

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3. (Currently Amended) The powertrain control system exhaust-muffler according to claim 2, wherein said housing includes a main housing portion and an actuator mounting pipe extending exteriorly away from said main housing portion, and an inlet pipe extending exteriorly away from said main housing portion proximate and generally parallel to said actuator mounting pipe.

4. (Currently Amended) The powertrain control system exhaust-muffler according to claim 3, wherein at least one heat shield is arranged between said electrical actuator and said inlet pipe.

5. (Currently Amended) The powertrain control system exhaust-muffler according to claim 2, wherein said exhaust passage includes a valve body supporting said valve with a shaft extending into said valve body and said valve secured to said shaft, said electrical actuator rotating said shaft to move said valve between said multiple positions.

6. (Currently Amended) The powertrain control system exhaust-muffler according to claim 5, wherein a rod is arranged transverse to said shaft, and said electrical actuator moving said rod generally linearly to rotate said shaft.

7. (Currently Amended) The powertrain control system exhaust-muffler according to claim 6, wherein said housing includes a stop limiting travel of at least one of said rod and said shaft.

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8. (Currently Amended) The powertrain control system ~~exhaust muffler~~ according to claim 5, wherein said housing includes an actuator mounting pipe extending into a main housing portion, and a first bearing arranged on said actuator mounting pipe supports one end of said shaft and a second bearing arranged on said valve body supports another end of said shaft.

9. (Currently Amended) The powertrain control system ~~exhaust muffler~~ according to claim 5, wherein said housing includes a main housing portion having at least one baffle supporting an outer shell, with at least one of said at least one baffle and said valve body including locating features providing a desired orientation between said at least one baffle and said valve body.

10. (Cancelled)

11. (Currently Amended) The powertrain control system ~~exhaust muffler~~ according to claim 10, wherein said exhaust passage is in fluid communication with a tuning chamber and said tuning chamber is in fluid communication with an outlet pipe carrying exhaust gas from a main housing portion.

12. (Currently Amended) The powertrain control system ~~exhaust muffler~~ according to claim 1, comprising a position sensor detecting said multiple positions of said valve.

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13. (Currently Amended) The powertrain control system ~~exhaust muffler~~ according to claim 1, comprising a return spring biasing said valve to one of said multiple positions.

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14. (Currently Amended) A ~~—~~The powertrain control system ~~comprising~~ according to claim 1 comprising:

an engine including multiple cylinders producing said exhaust gas;

a controller selectively activating said multiple cylinders to provide a desired power displacement; and

an exhaust system ~~having~~ including said valve and an electrical actuator selectively electrically actuated by said controller to move said valve between said multiple positions in response to said desired power displacement.

15. (Original) The powertrain control system according to claim 14, wherein said exhaust system includes a muffler supporting said valve and said electrical actuator.

16. (Previously Presented) The powertrain control system according to claim 14, wherein said exhaust system includes a position sensor detecting said multiple positions of said valve, said position sensor communicating to said controller.

17. (Previously Presented) The powertrain control system according to claim 16, wherein said controller determines a malfunction condition based upon information from said position sensor.

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18. (Previously Presented) The powertrain control system according to claim 14, wherein a return spring biases said valve to one of said multiple positions in a power loss event of said electrical actuator.

19. (Previously Presented) The powertrain control system according to claim 14, wherein said exhaust system includes at least one valve arranged in at least one exhaust passage, and said exhaust flows through said at least one exhaust passage, with substantially all of said exhaust gas flowing through said valve in each of said multiple positions.